

REMARKS

Reconsideration and allowance of the subject application are respectfully requested. Claims 1-11 remain pending, claims 1, 4, 8, and 10 being independent. In this Reply, Applicant has made minor amendments to the specification and has amended claims 1, 4, 7, 8, and 10.

Prior Art Rejections1. Itoh et al.

Claims 1 and 3-4 stand rejected under 35 U.S.C. § 103 as being unpatentable over Itoh et al. (U.S. Patent 5,585,817). This rejection is respectfully traversed.

Independent claim 1 is directed to an image display apparatus comprising: an imaging section having photoelectric conversion devices arranged in the form of a matrix; and a display section having display devices arranged in the form of a matrix. The imaging section of claim 1 sequentially outputs signals generated by the photoelectric conversion devices in parallel column by column of the matrix. The display section of claim 1 displays an image represented by signals applied thereto at the time of applying driving pulses, applies the signals output in parallel from the imaging section to display devices column by column, and supplies the driving pulses line by line in a predetermined order. As shown in Fig. 1, illustrating an embodiment on which claim 1 reads, the imaging section outputs the signals from the plurality of columns of the imaging section matrix without conversion to serial form, thereby reducing the transmission rate of the signals.

Independent claim 4 is directed to an image display apparatus comprising: an imaging section having photoelectric conversion devices arranged in the form of a matrix; a signal conversion section; and a display section having display devices arranged in the form of a matrix. The imaging section of claim 4 sequentially outputs signals generated by the photoelectric conversion devices in parallel column by column of the matrix. The signal conversion section of claim 4 processes the signals output from the imaging section in parallel column by column and outputs the processed signals in parallel. The display section of claim 4 applies the signals output in parallel from the signal conversion section to the display devices column by column and supplies driving pulses for image display line by line in a predetermined order.

Itoh discloses an image input/output apparatus having an image input section 20 and an image display section 10. Applicant submits, however, that Itoh fails to teach or suggest generating a parallel column by column output from the imaging section as recited in independent claims 1 and 4. Furthermore, Itoh fails to teach or suggest the display section as recited in claim 1, which applies signals output in parallel from the imaging section to the display devices column by column, or the display section of claim 4, which applies the signals output in parallel from the signal conversion section to the display devices column by column.

As noted by the Examiner on page 2 of the Office Action, Itoh discloses a configuration for an image input section 10 in which the photodetective portion 109 is divided into two parallel blocks 109', 109". Such a configuration fails to

teach or suggest an imaging section as required by independent claims 1 and 4, however, which sequentially output signals generated by photoelectric conversion devices in parallel column by column of the matrix.

2. Itoh - Sasaki

Claims 2 and 5-11 stand rejected under 35 U.S.C. § 103 as being unpatentable over Itoh in view of Sasaki (U.S. Patent 5,140,440). This rejection is respectfully traversed.

Independent claim 8 is directed to an image display apparatus comprising: an imaging section having photoelectric conversion devices arranged in the form of a matrix; a signal conversion section for processing signals output from the imaging section; and a parallel-to-serial conversion section. The imaging section of claim 8 sequentially outputs signals generated by the photoelectric conversion devices in parallel column by column of the matrix. The signal conversion section of claim 8 processes signals output in parallel from the imaging section column by column and outputs the process signals in parallel. The parallel-to-serial conversion section of claim 8 converts the signals output in parallel from the signal conversion section to serial signals.

In rejecting independent claim 8, the Examiner relies on Sasaki as allegedly teaching the parallel-to-serial conversion section recited in the claim. As discussed above, however, Itoh fails to disclose or suggest an imaging section as recited in independent claim 8. The Examiner's reliance on Sasaki fails to make up for this deficiency of Itoh. Therefore, Sasaki, taken alone or in combination

with Itoh (assuming these references are combinable, which Applicant does not admit), fails to establish *prima facie* obviousness of independent claim 8.

Independent claim 10 is directed to a display apparatus comprising: a serial-to-parallel conversion section for converting signals serially input thereto to parallel signals; a signal conversion section for processing the signals output in parallel from the serial-to-parallel conversion section column by column; and a display section having display devices arranged in the form of a matrix. The display section of claim 10 displays an image represented by signals applied thereto at the time of applying driving pulses and applies the signals output in parallel from the signal conversion section column by column.

In rejecting independent claim 10, the Examiner relies on Sasaki as allegedly teaching the serial-to-parallel conversion section recited in the claim. Applicant submits, however, that neither Itoh nor Sasaki teach or suggest a signal conversion section as recited in independent claim 10, which processes the signals output in parallel from a serial-to-parallel conversion section column by column and outputs the processed signals in parallel. Consequently, Applicant submits that Sasaki, taken alone or in combination with Itoh (assuming these references are combinable, which Applicant does not admit), fails to establish *prima facie* obviousness of independent claim 10.

Dependent claims 9 and 11 define over the asserted combination of Itoh and Sasaki at least for depending from claims 8 and 10, respectively, as well as on their own merits.

With regard to dependent claims 2 and 5-7, Applicant submits that Sasaki fails to make up for the deficiencies of Itoh discussed above with regard to independent claims 1 and 4. Therefore, Applicant submits that dependent claims 2 and 5-7 are allowable at least by virtue of their dependency from one of independent claims 1 and 4, as well as on their own merits.

In view of the above, Applicant respectfully requests reconsideration and withdrawal of the Examiner's rejection under 35 U.S.C. § 103 based on the asserted combination of Itoh and Sasaki.

Conclusion

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact the undersigned at the telephone number below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

Applicant respectfully petitions for a one (1) month extension of time pursuant to 37 C.F.R. §§ 1.17 and 1.136(a). A check in the amount of \$110.00 in payment of the extension of time fee is attached hereto.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17; particularly, extension of time fees.

Respectfully submitted,

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Attachment: Version With Markings to Show Changes Made

(Rev. 09/26/01)

VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE SPECIFICATION:

Please replace the paragraph beginning on page 4, line 1, with the following rewritten paragraph:

--To accomplish the foregoing subjects, an image display apparatus of the present invention comprises: an imaging section having photoelectric conversion devices arranged in the form of a matrix, the imaging section sequentially outputting signals generated by the photoelectric conversion devices in parallel column by column of the matrix; and a display section having display devices arranged in the form of a matrix, which displays an image represented by the signals applied thereto at the time of application of driving pulses, the display section applying the signals output in parallel from the imaging section to these display devices column by column and supplying the driving pulses line by line in a predetermined order.--

Please replace the paragraph beginning on page 4, line 16, with the following rewritten paragraph:

--Furthermore, an image display apparatus of the present invention comprises: an imaging section having photoelectric conversion devices arranged in the form of a matrix, the imaging section sequentially outputting signals generated by the photoelectric conversion devices in parallel column by column

of the matrix; a signal conversion section for performing a processing for the signals output from the imaging section in parallel column by column and outputting the processed signals in parallel; and a display section having display devices arranged in the form of a matrix, which [display] displays an image represented by signals applied thereto at the time of application of driving pulses, the display section applying the signals output in parallel from the signal conversion section to these display devices column by column and supplying the driving pulses line by line in a predetermined order.--

Please replace the paragraph beginning on page 5, line 6, with the following rewritten paragraph:

--Furthermore, an image display apparatus of the present invention comprises: an imaging section having photoelectric conversion devices arranged in the form of a matrix, the imaging section sequentially outputting signals generated by the photoelectric conversion devices in parallel column by column of the matrix; a signal conversion section for performing a processing for the signals output in parallel from the imaging section column by column and outputting the processed signals in parallel; and a parallel-to-serial conversion section for converting the signals output in parallel from the signal conversion section to serial signals.--

Please replace the paragraph beginning on page 5, line 19, with the following rewritten paragraph:

--Still furthermore, an image display apparatus of the present invention comprises: a serial-to-parallel conversion section for converting signals serially input thereto to parallel signals and outputting the signals; and a display section having display devices arranged in the form of a matrix, which [display] displays an image represented by signals applied thereto at the time of application of driving pulses, the display section applying the signals output in parallel from the serial-to-parallel conversion section to these display devices column by column and supplying the driving pulses row by row in a predetermined order.--

IN THE CLAIMS:

The claims have been amended as follows:

1. (Amended) An image display apparatus comprising:
an imaging section having photoelectric conversion devices arranged in the form of a matrix, said imaging section sequentially outputting signals generated by said photoelectric conversion devices in parallel column by column of said matrix; and

a display section having display devices arranged in the form of a matrix, which displays an image represented by signals applied thereto at the time of application of driving pulses, said display section applying the signals output in parallel from said imaging section to said display devices column by column and supplying said driving pulses line by line in a predetermined order.

4. (Amended) An image display apparatus comprising:
an imaging section having photoelectric conversion devices arranged in the form of a matrix, said imaging section sequentially outputting signals generated by said photoelectric conversion devices in parallel column by column of said matrix;

a signal conversion section for performing a processing for the signals output from said imaging section in parallel column by column and outputting the processed signals in parallel; and

a display section having display devices arranged in the form of a matrix, which [display] displays an image represented by signals applied thereto at the time of application of driving pulses, said display section applying the signals output in parallel from said signal conversion section to said display devices column by column and supplying said driving pulses line by line in a predetermined order.

7. (Amended) The image display apparatus according to claim 4, [wherein said apparatus] further comprising:

a parallel-to-serial conversion section for converting the signals output in parallel from said signal conversion section to serial signals.

8. (Amended) An image display apparatus comprising:
an imaging section having photoelectric conversion devices arranged in the form of a matrix, said imaging section sequentially outputting signals generated

by said photoelectric conversion devices in parallel column by column of said matrix;

a signal conversion section for performing a processing for the signals output in parallel from said imaging section column by column and outputting the processed signals in parallel; and

a parallel-to-serial conversion section for converting the signals output in parallel from said signal conversion section to serial signals.

10. (Amended) A display apparatus comprising:

a serial-to-parallel conversion section for converting signals serially input thereto to parallel signals and outputting the signals;

a signal conversion section for performing a processing for the signals output in parallel from said serial-to-parallel conversion section column by column and outputting the processed signals in parallel; and

a display section having display devices arranged in the form of a matrix, which [display] displays an image represented by signals applied thereto at the time of application of driving pulses, said display section applying the signals output in parallel from said [serial-to-parallel] signal conversion section to said display devices column by column and supplying said driving pulses line by line in a predetermined order.